increased temperature, and this can easily occur through combustion of the distillation gas. This may be due to too shallow a bed of fuel, owing to neglectfulness of the workmen; or is given rise to permanently in consequence of too feeble a blast, which does not permit of the mastery of a thick bed of fuel; sometimes, however, also to the, above all, undesirable property of some kinds of coal of baking hard. With the object of rendering possible the passage of air, there must be in such cases frequent "pottering"—that is to say, one must industriously prick holes through the bed of coal with long potter bars. These holes, however, form small passages, through which fresh air can easily make its way into the gas space, and its work of destruction can do harm to the previously good quality of gas. It is as yet not a practically solved question whether it is not possible to remove this undesirable property, without prejudice to the quality of gas, by means of admixing non-caking lean fuel, say, small coke, which in many works forms a nearly valueless waste product. The consideration that, owing to such admixtures, the quality of the gas would be prejudiced may not be justified, since the steam-air gas from pure carbon, with its combustible value of 1,18(5 calories per cubic metre, so much exceeds that of many gases, which have been faultily produced from bituminous fuels, as shown, for example, by the gases 15 to 20 in Table G (on p. 81).

On the contrary, • one would, by such admixtures, in tht* event of the caking of the main fuel being able to bo reduced, be able to considerably economise labour, owing to diminution of pottering.

THE VOLUME OF THE INCANDESCENT BED IN THE PRODUCER.

It is a question whether it is possible, owing to the mutual dependence of the temperature of the current of gas and the fuel coming in contact with it, to have in the producer a bed of incandescent fuel, to serve in some measure as a safety device, in order to compensate for the before-mentioned faults in the steam-gas production, in that it in some way reduces carbonic acid to CO. The question is obviously to be answered